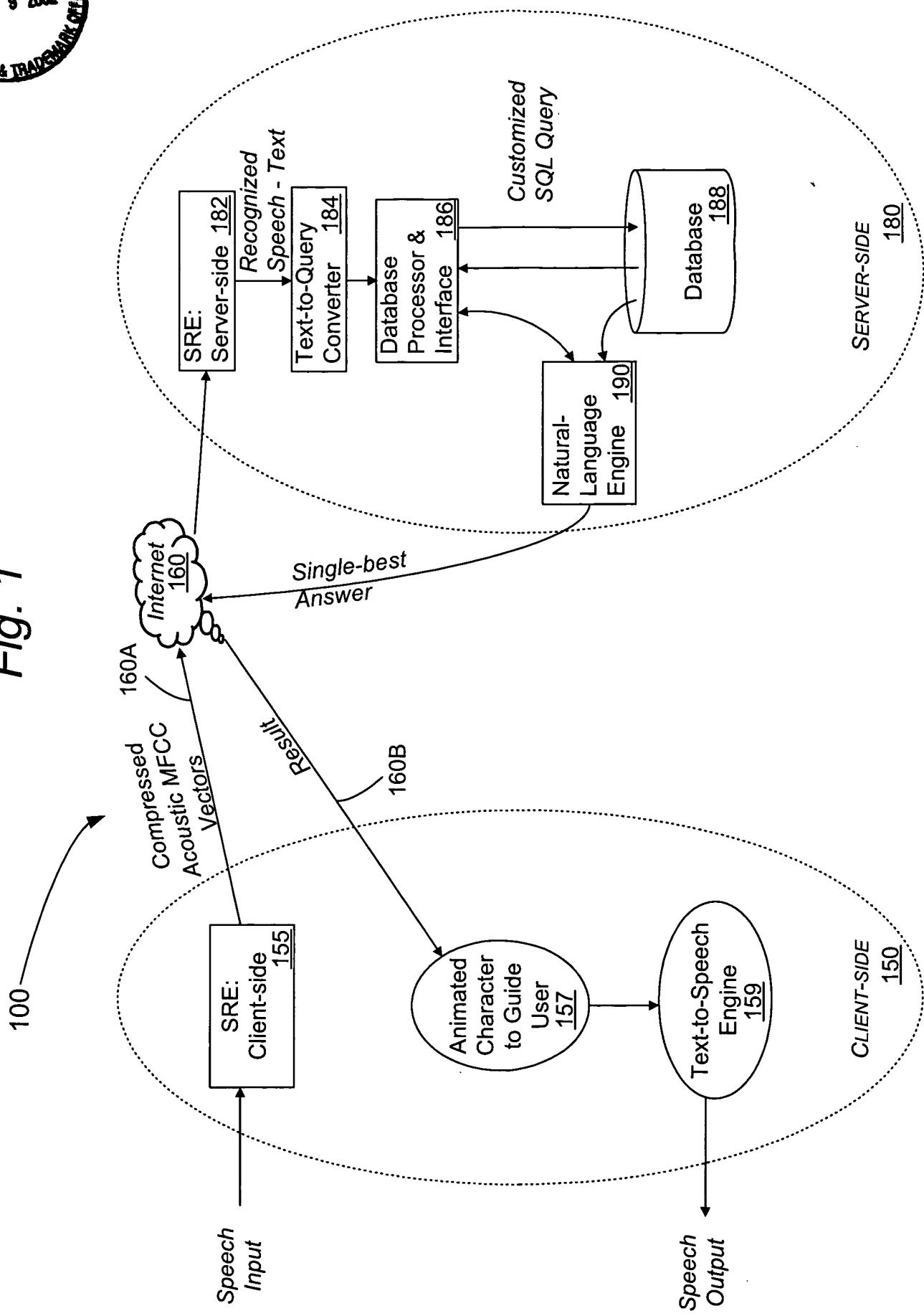


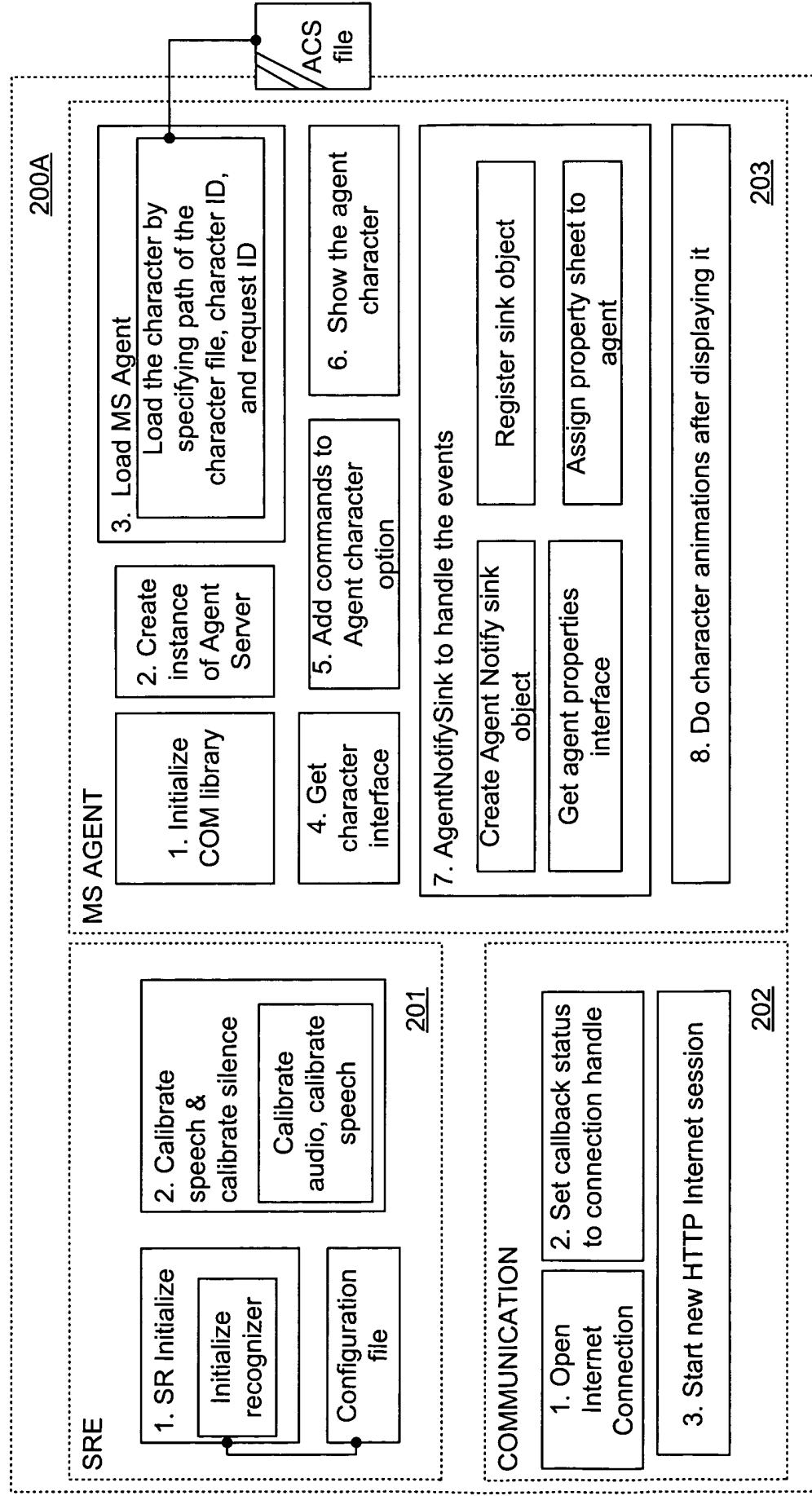


Fig. 1





**Figure 2 (Page 1/3)**  
CLIENT-SIDE SYSTEM LOGIC





## Figure 2 (Page 2/3)

### CLIENT-SIDE SYSTEM LOGIC

215

This is an iterative process. This process initiated as and when user speaks by pressing control. 200B

#### RECEIVE USER SPEECH 208

SRE (recognize the speech)

1. Prepare coder

2. Start source

3. Convert speech into MFCC vectors until silence is found

204

#### RECEIVE ANSWER FROM SERVER 207

MS AGENT : Speak( )

1. Receive the decompressed answer

2. Speak the answer received from server

206

#### COMMUNICATION : InternetRead ()

1. Uncompress the answer

2. Receive the best answer from the server in a compressed form

3. Pass the decompressed data to MS AGENT 209

TTS 211

210

UK English voice data file 210

#### COMMUNICATION : OpenHttprequest ()

1. Encode the stream of bytes so that it is compatible to send to server via Internet using HTTP.

2. Send the data (user's question) to server 205

3. Wait for the server response





## Figure 2 (Page 3/3)

### CLIENT-SIDE SYSTEM LOGIC

UN-INITIALIZATION (performs as and when user quits i.e. closes the web page)

200C

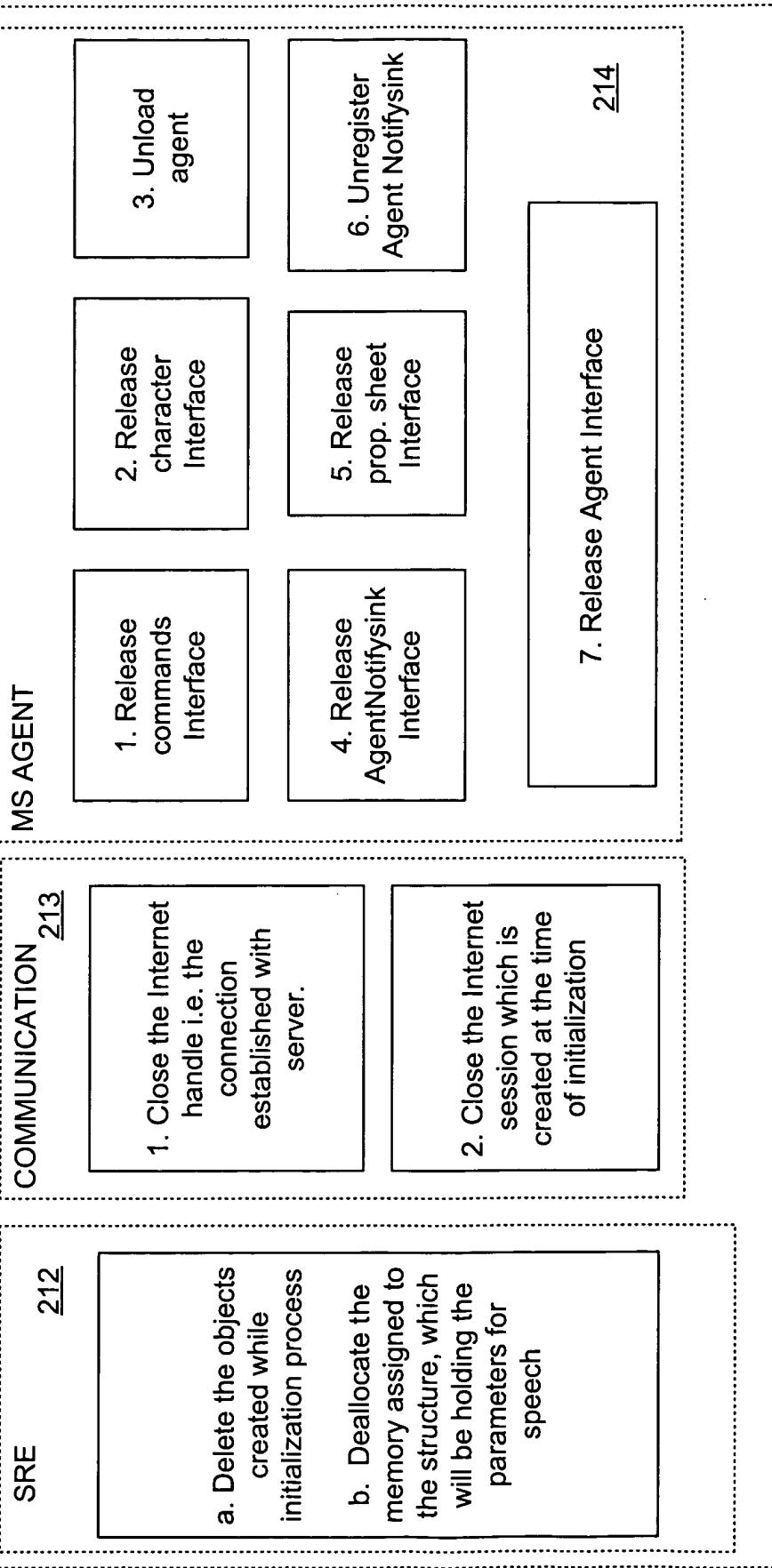
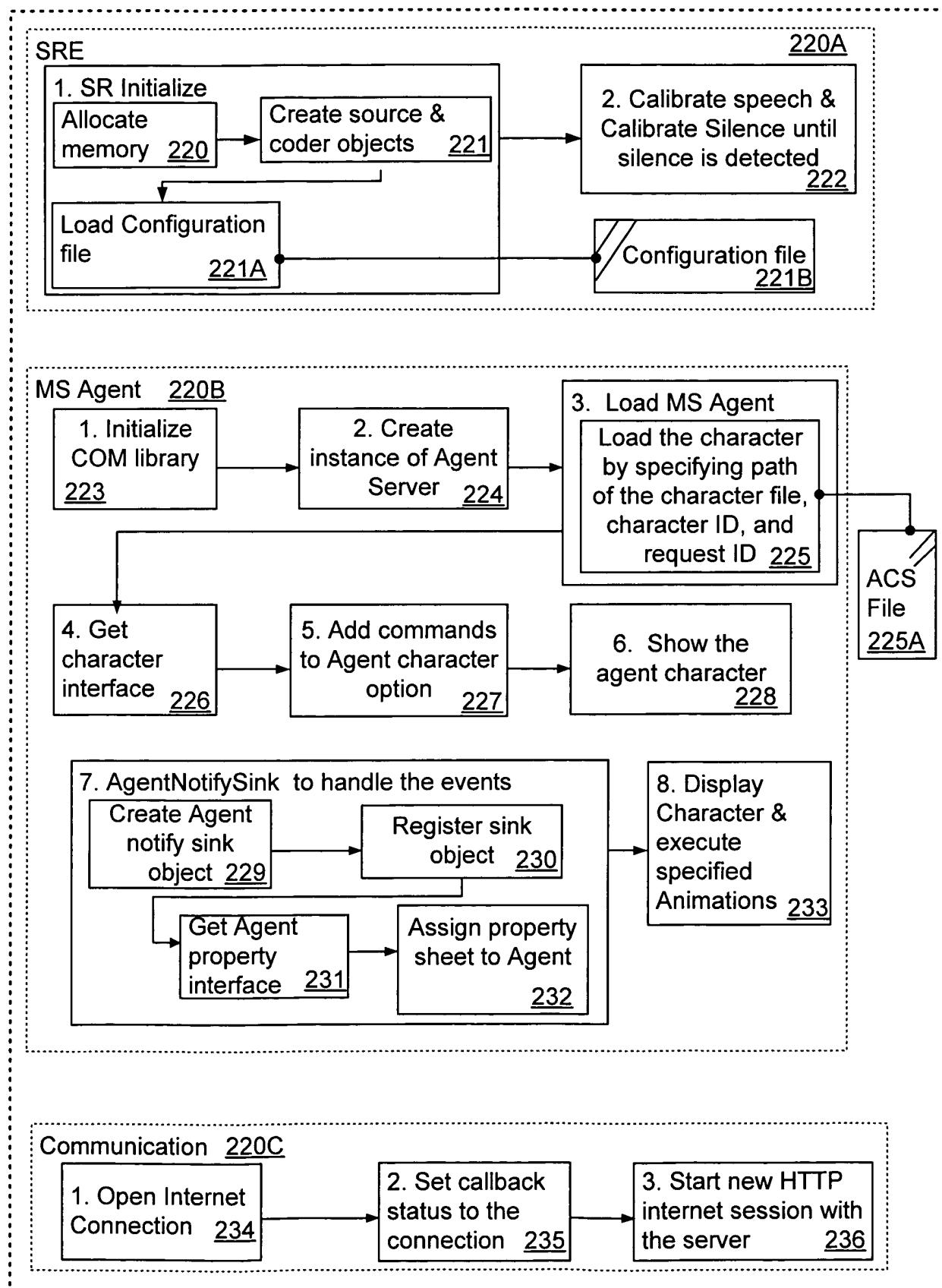


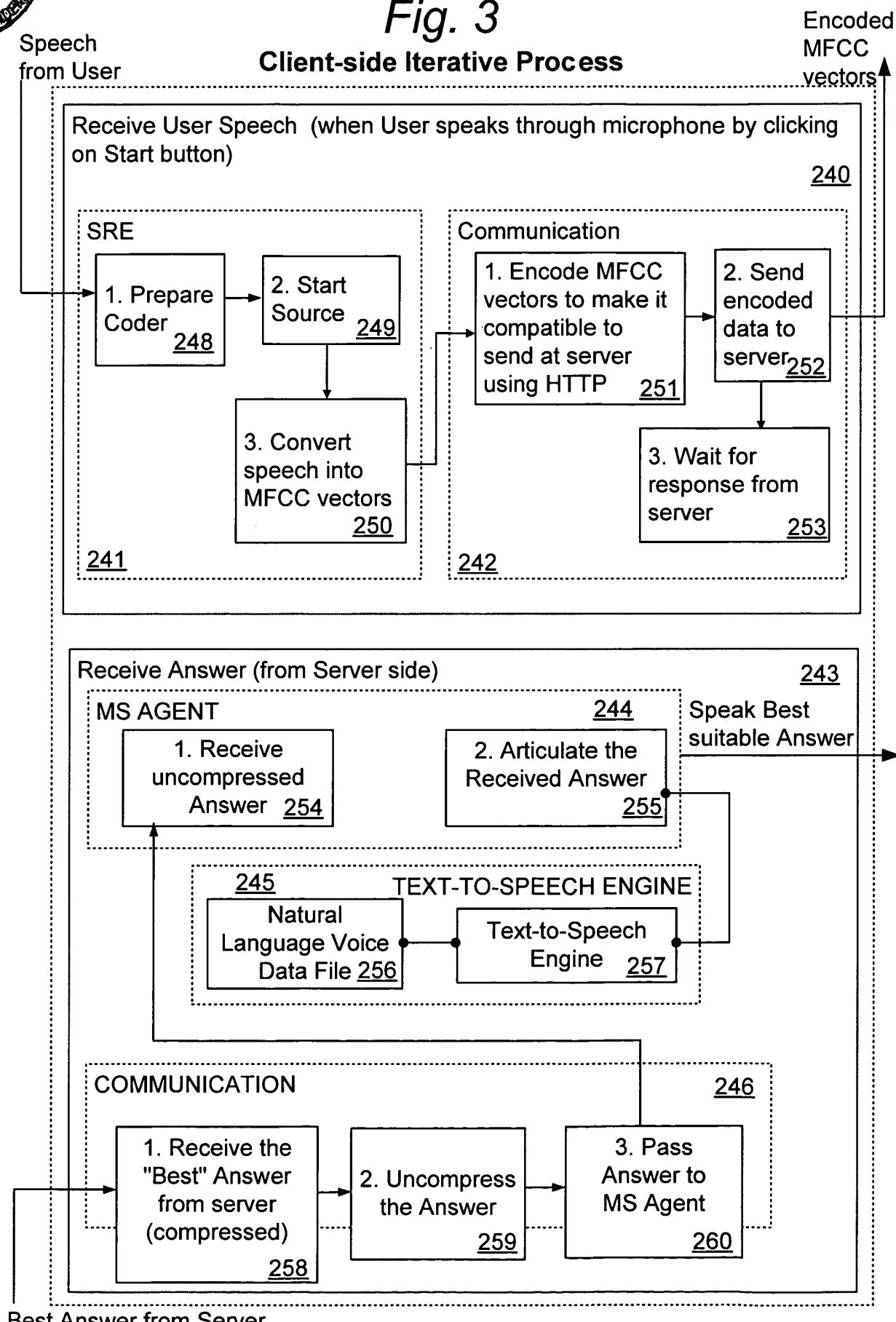


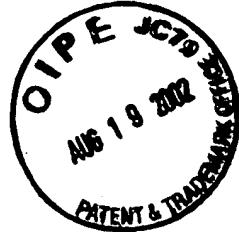
Fig. 2-2 Client-side Initialization



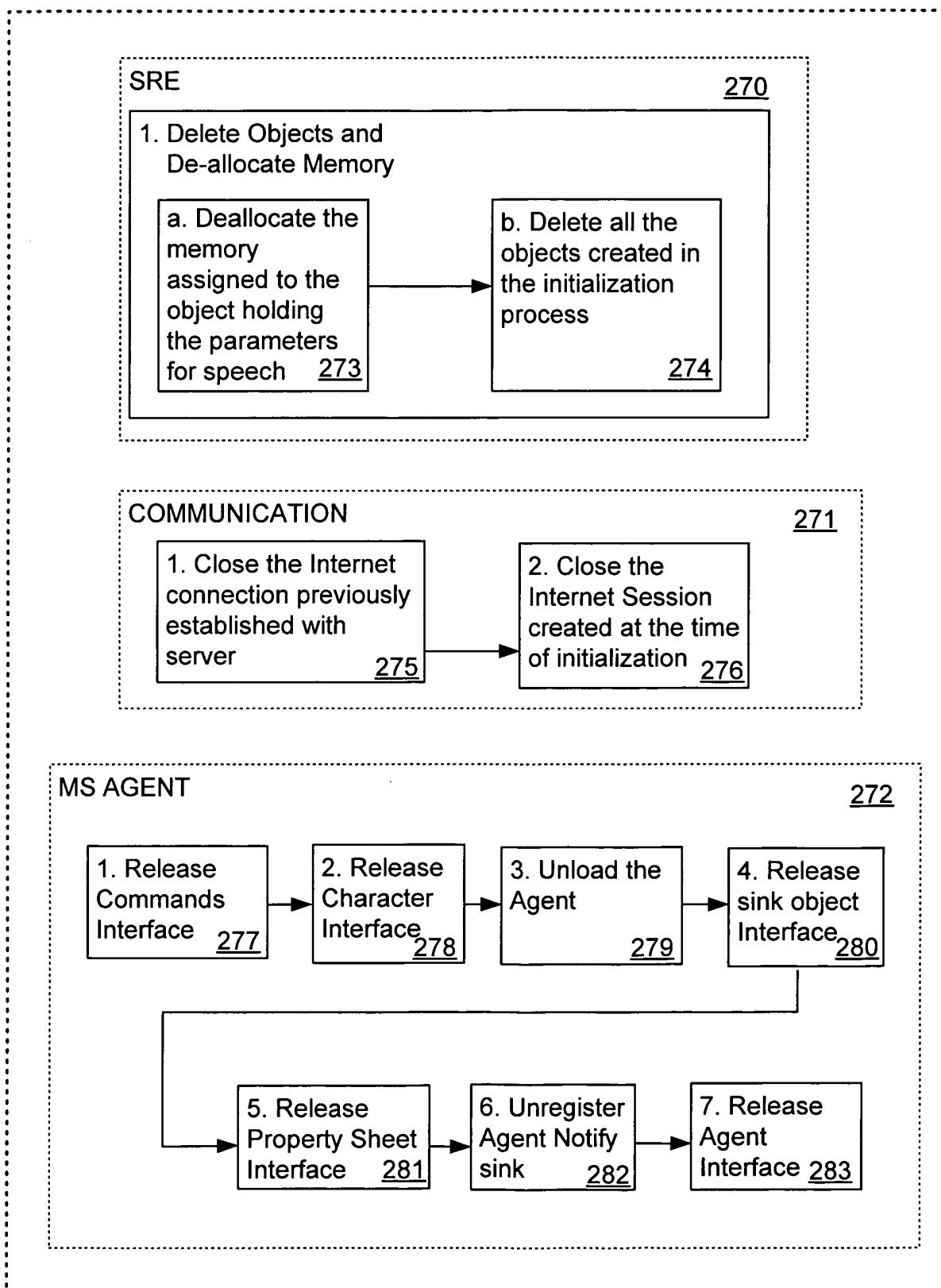


**Fig. 3**  
**Client-side Iterative Process**





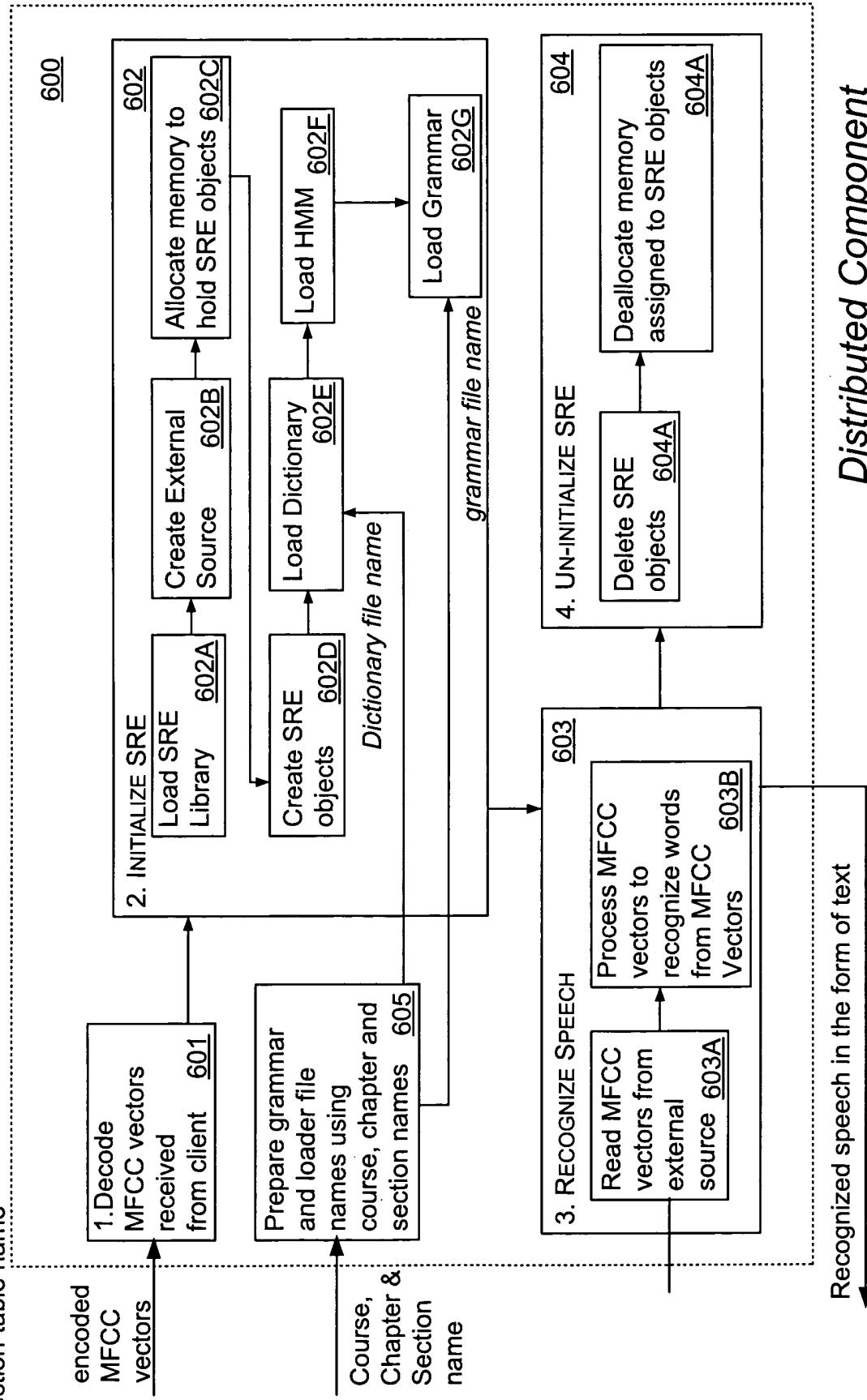
*Fig. 4*  
**Client-side Un-Initialization**





**Fig. 4A**

Note: course-DB name  
chapter-table name  
section-table name



**Distributed Component  
of SRE at Server-Side**



*Fig. 4B*

## Build of SQL Query

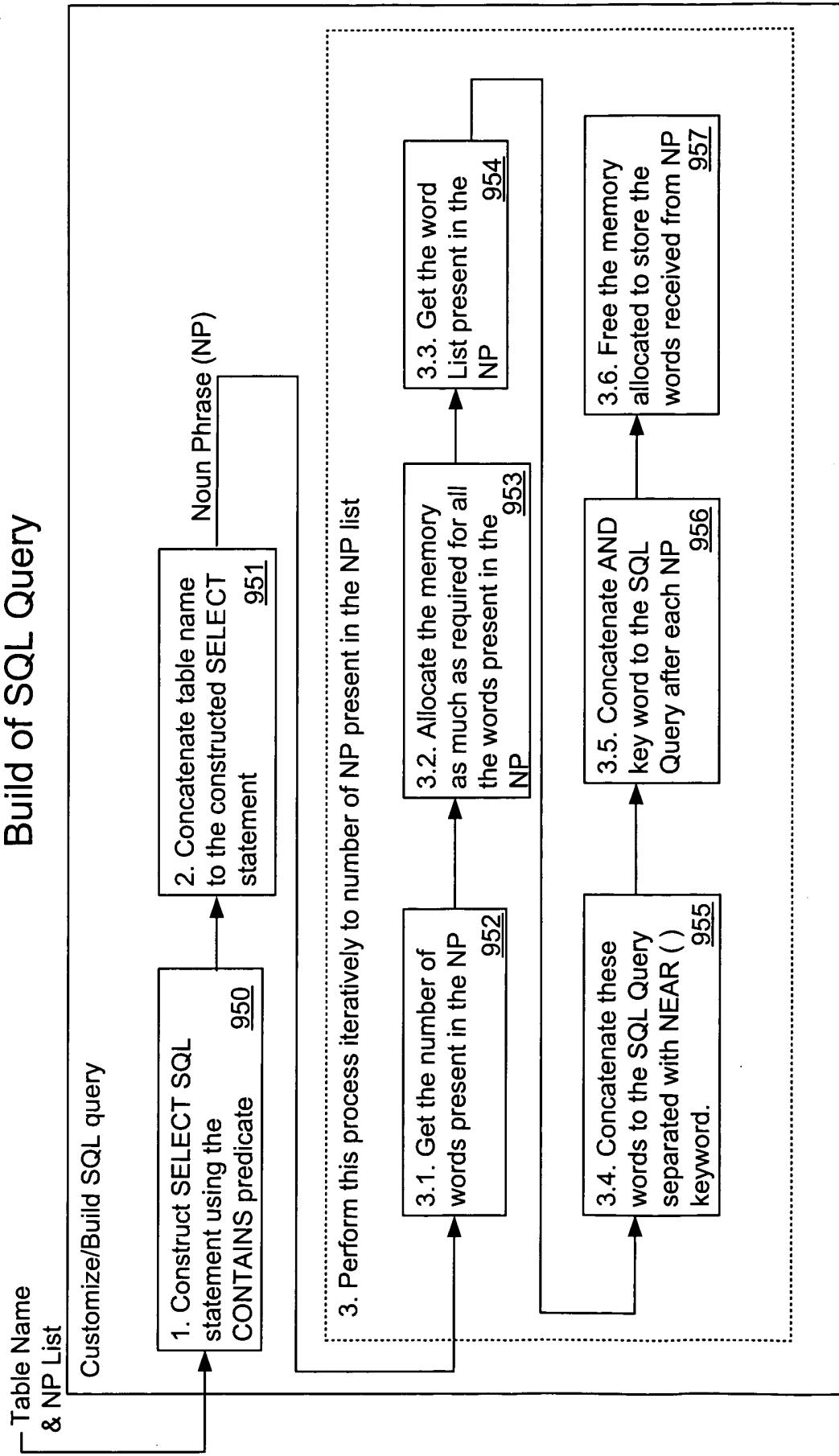




Fig. 4C

Server-side DBProcess DLL

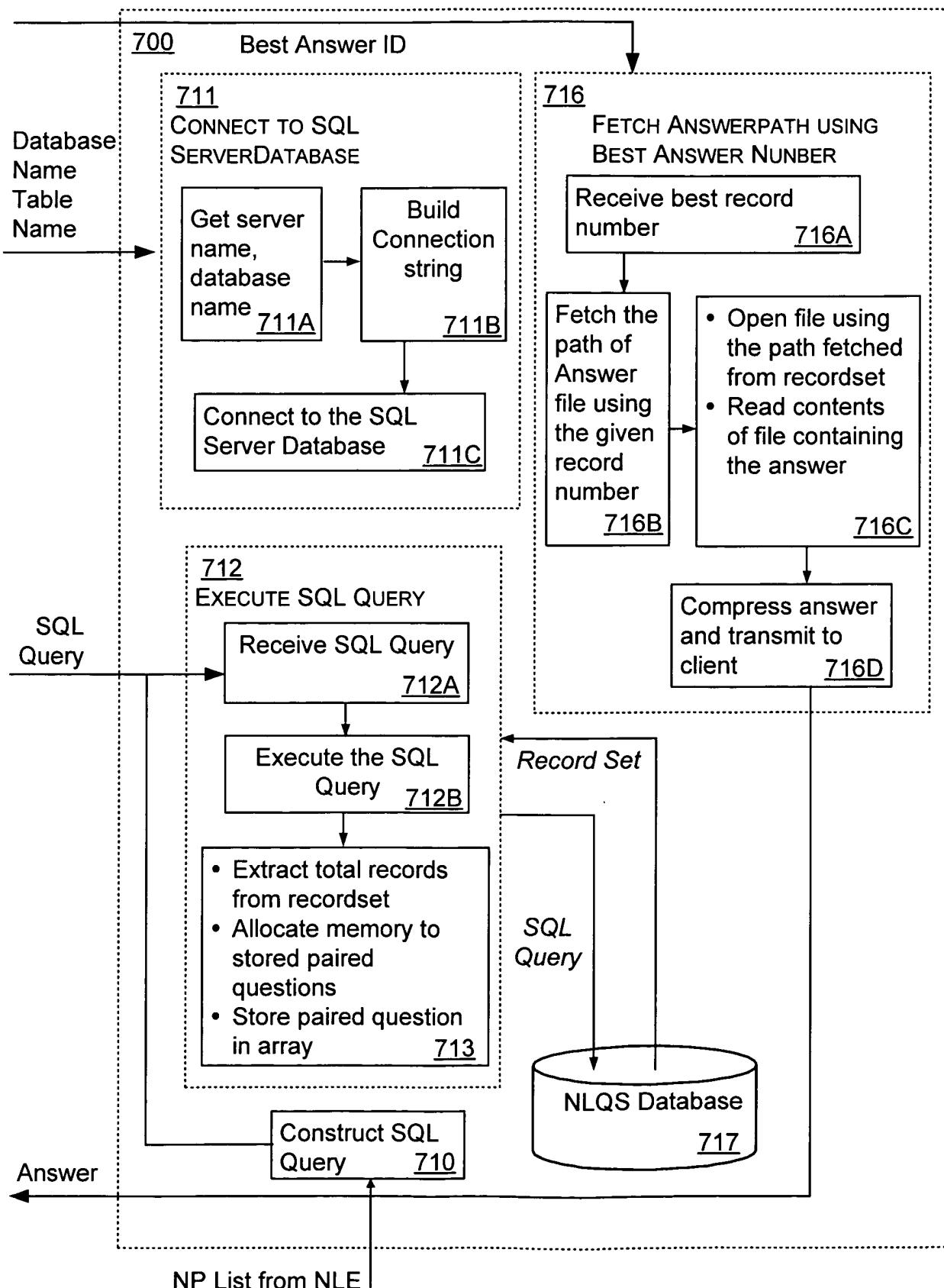




Fig. 4D

Note: PQ - Paired Question    Interface Logic between  
 NP- Noun Phrase    NLE and DBProcess.DLL  
 Red Line - I / O

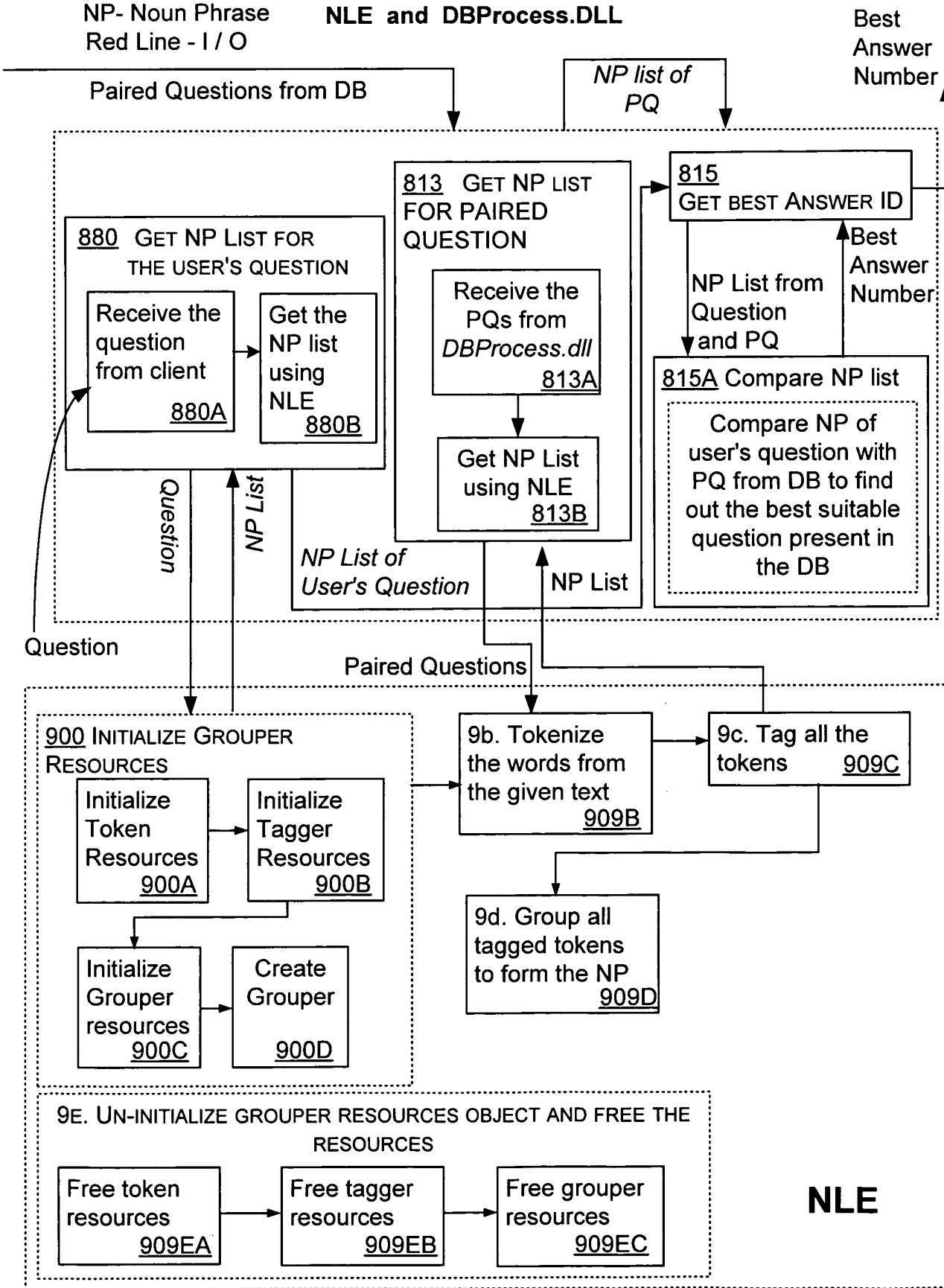




Fig. 5

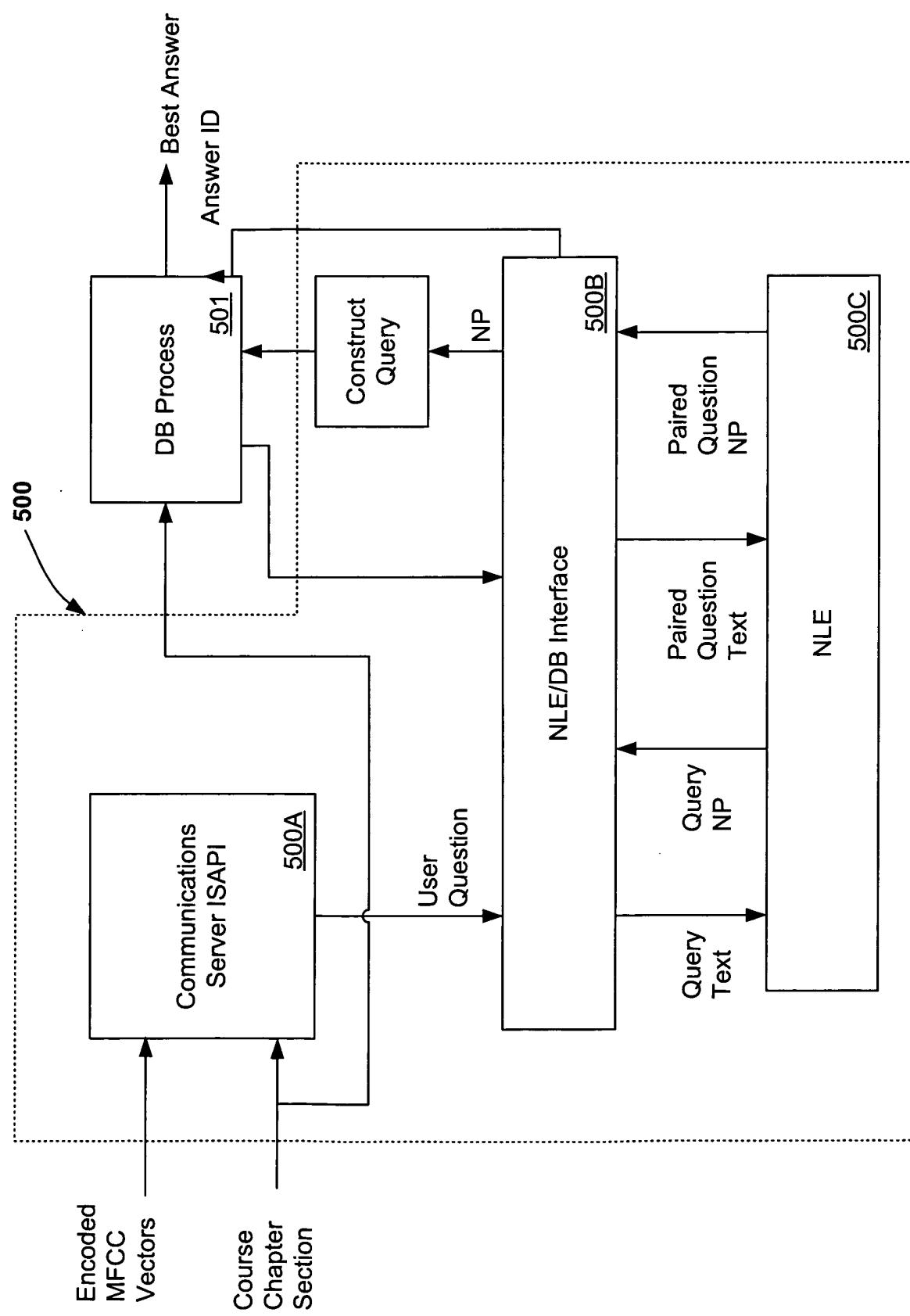




Fig. 6

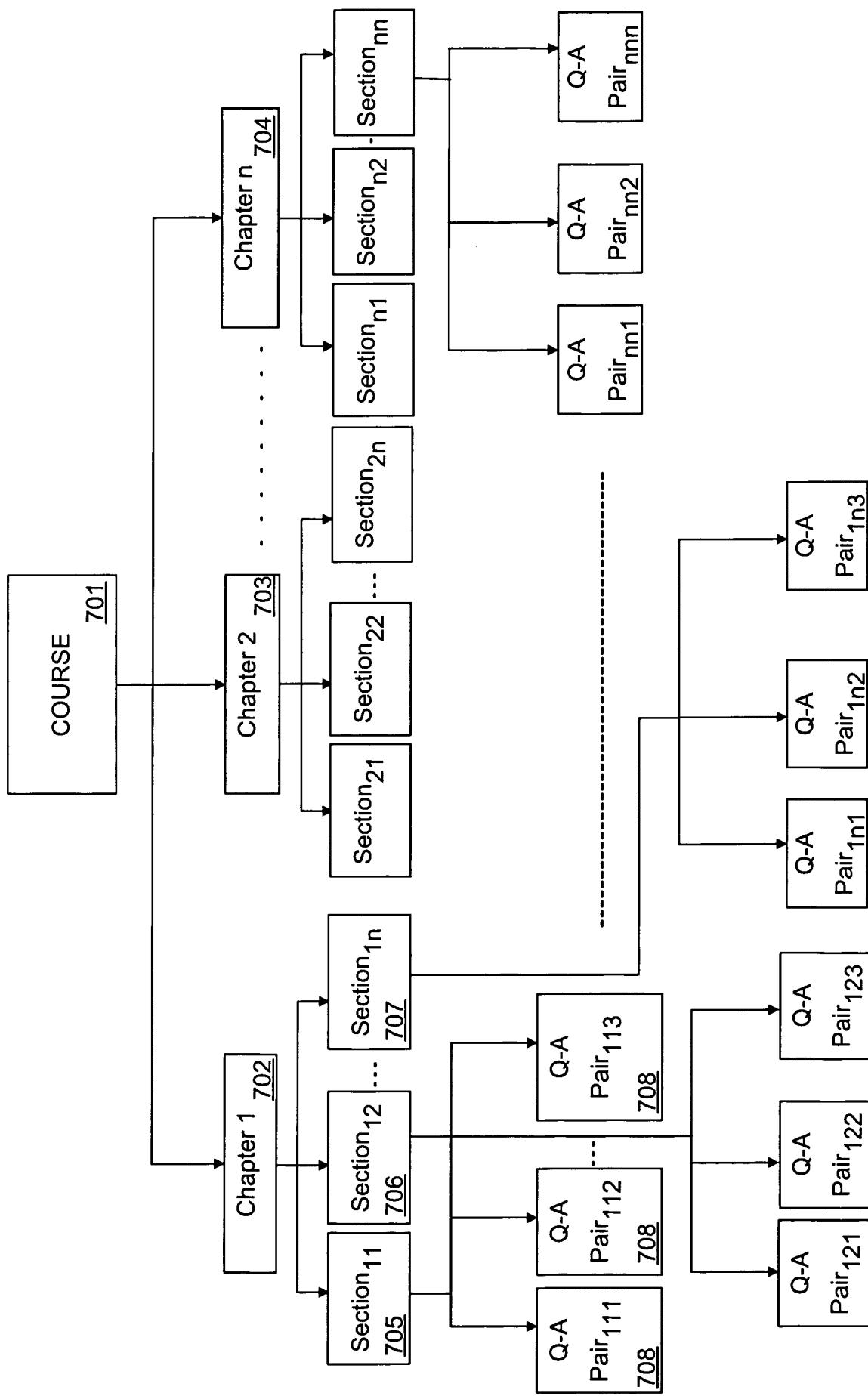




Fig. 7A

FIELD NAME	DATA TYPE	SIZE	NULL	PRIMARY KEY	INDEXED?
<u>701A</u>	<u>702A</u>	<u>703A</u>	<u>704A</u>	<u>705A</u>	<u>706A</u>
ChapterName	Varchar	255	No	No	Yes
SectionName	Varchar	255	No	No	Yes
<u>708A</u>	<u>708A</u>				



*Fig. 7B*

FIELD NAME <u>720</u>	DATA TYPE <u>721</u>	SIZE <u>722</u>	NULL <u>723</u>	PRIMARY KEY <u>724</u>	INDEXED? <u>725</u>
Chapter_ID <u>726</u>	Integer		No	Yes	Yes
Answer_ID <u>727</u>	Char	5	No	UNIQUE	Yes
Section_Name <u>728</u>	Varchar	255	No	UNIQUE	Yes
Answer_Title <u>729</u>	Varchar	255	Yes	No	Yes
PairedQuestion <u>730</u>	Text	16	No	No	Yes (Full-Text)
AnswerPath <u>731</u>	Varchar	255	No	No	Yes
Creator <u>732</u>	Varchar	50	No	No	Yes
Date_of_Creation <u>733</u>	Date	-	No	No	Yes
Date_of_Modification <u>734</u>	Date	-	No	No	Yes



*Fig. 7C*

Field	Description
<u>720</u>	735
<u>AnswerID</u>	An integer - automatically incremented for user convenience
<u>Section_Name</u>	Name of section to which the particular record belongs. This field along with AnswerID has to be made primary key
<u>Answer_Title</u>	A short description of the answer
<u>PairedQuestion</u>	Contains one or more combinations of questions for the related answer whose path is stored in the next column AnswerPath
<u>AnswerPath</u>	Contains the path of text file, which contains the answer to the related questions stored in the previous column
<u>Creator</u>	Name of content creator
<u>Date_of_Creation</u>	733 Date on which content has been added
<u>Date_of_Modification</u>	734 Date on which content has been changed or modified



Fig. 7D

FIELD <u>740</u>	DATA TYPE <u>741</u>	SIZE <u>742</u>	NULL <u>743</u>	PRIMARY KEY <u>744</u>	INDEXED <u>745</u>
Answer_ID <u>746</u>	Char	5	No	Yes	Yes
Answer_Title <u>747</u>	Varchar	255	Yes	No	No
PairedQuestion <u>748</u>	Text	16	No	No	Yes (Full-Text)
Answer_Path <u>749</u>	Varchar	255	No	No	No
Creator <u>750</u>	Varchar	50	No	No	No
Date_of_Creation <u>751</u>	Date	-	No	No	No
Date_of_Modification <u>752</u>	Date	-	No	No	No



Fig. 8

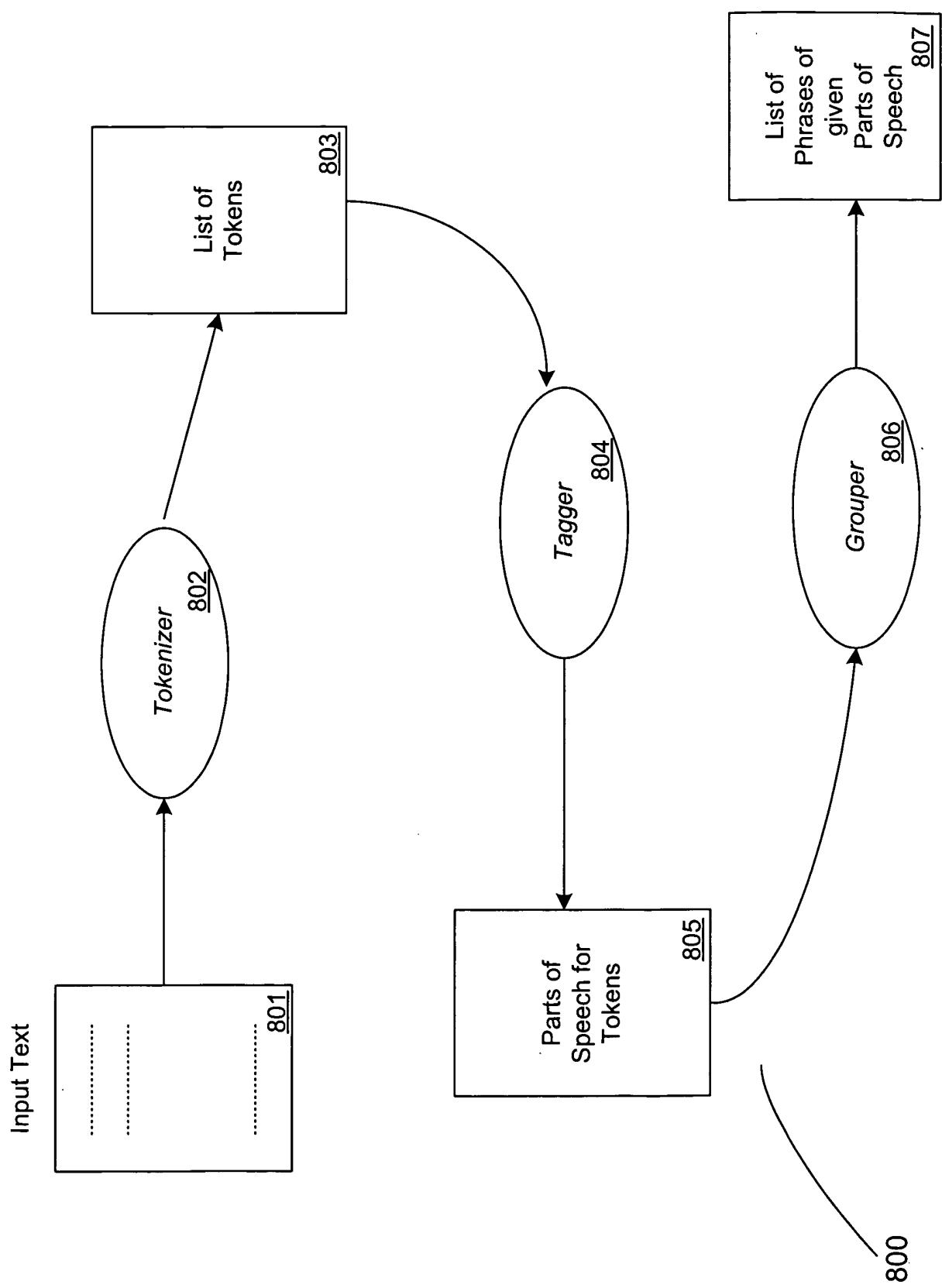




Fig. 9

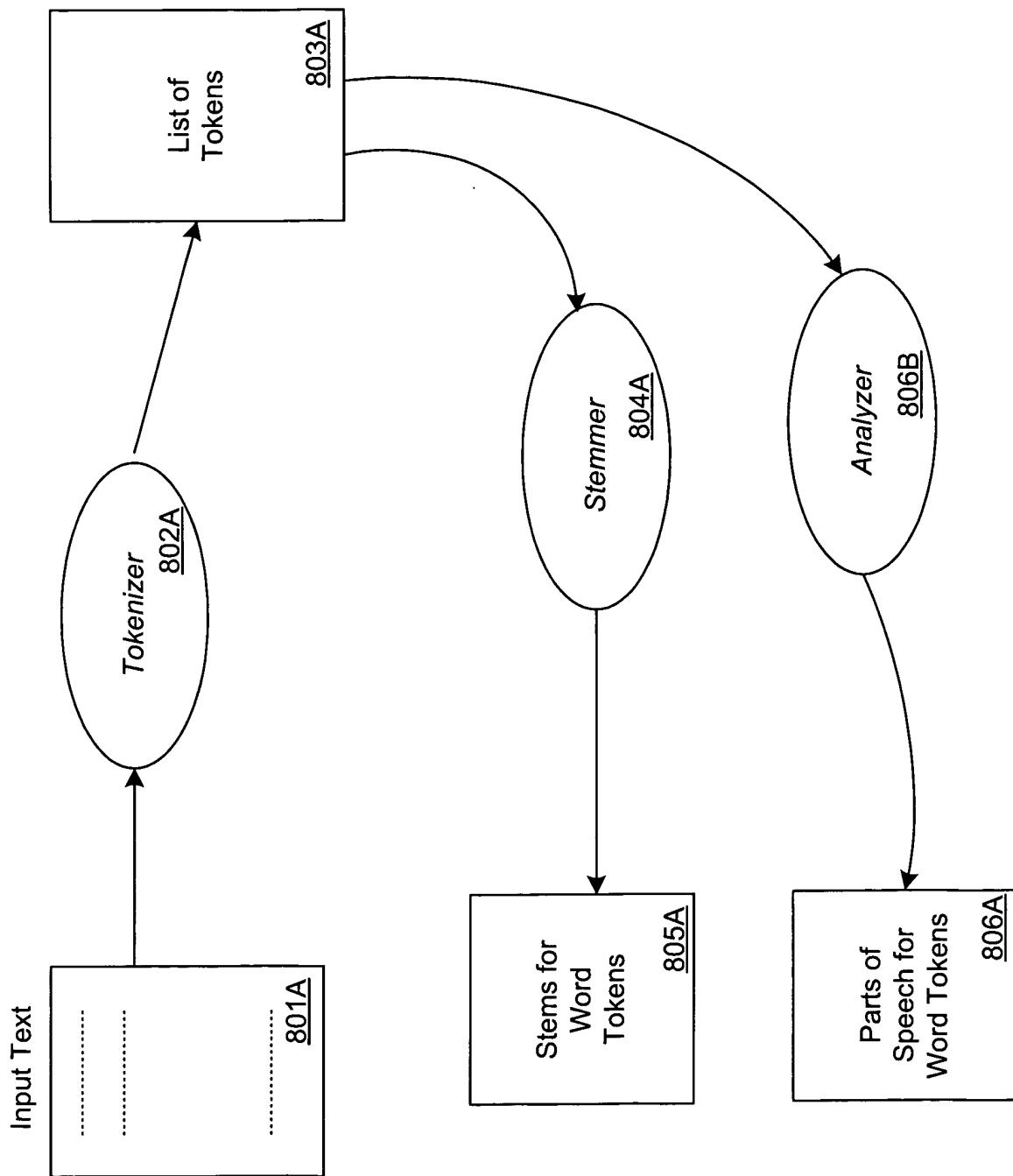




Fig. 10

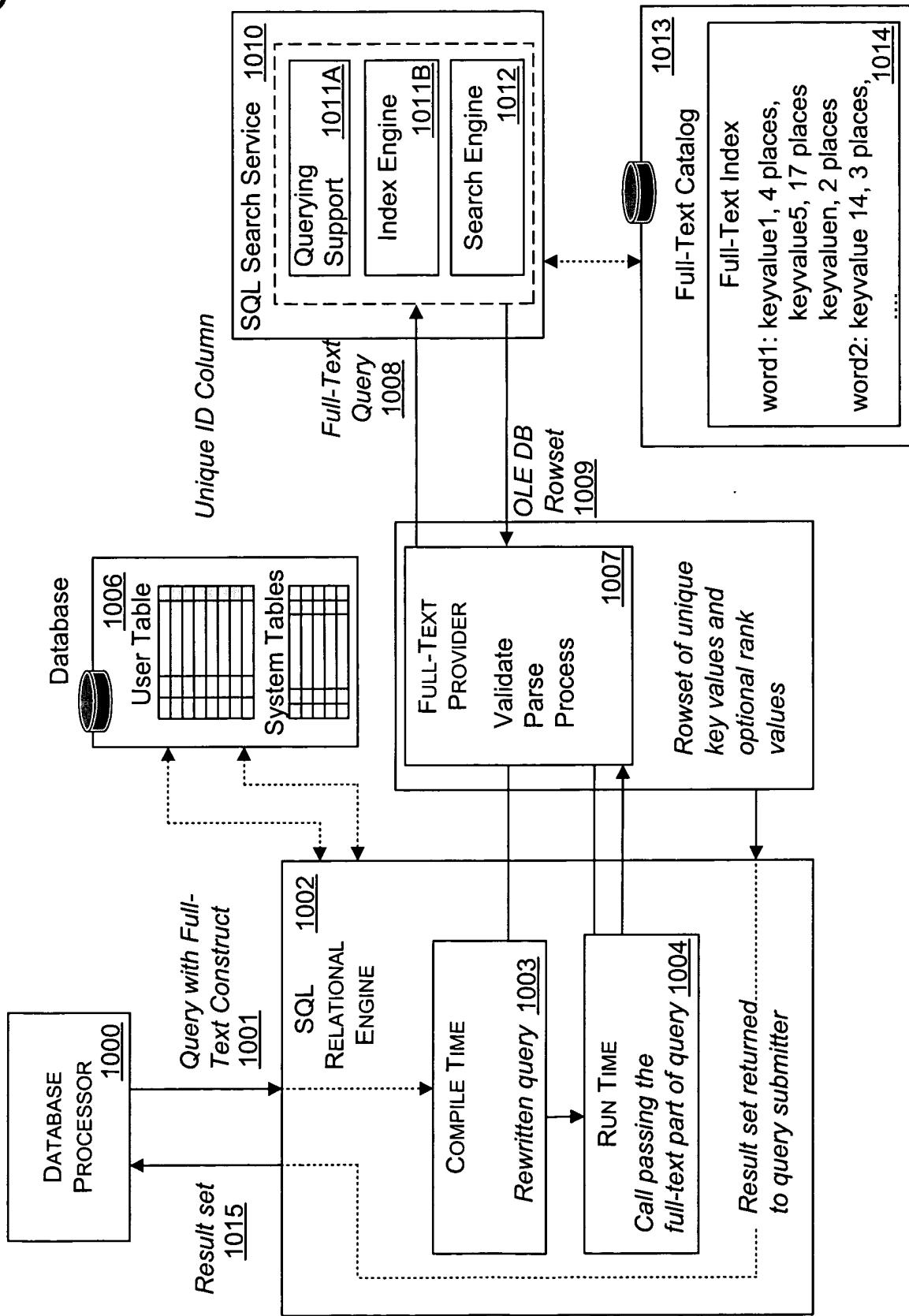




Fig. 11A

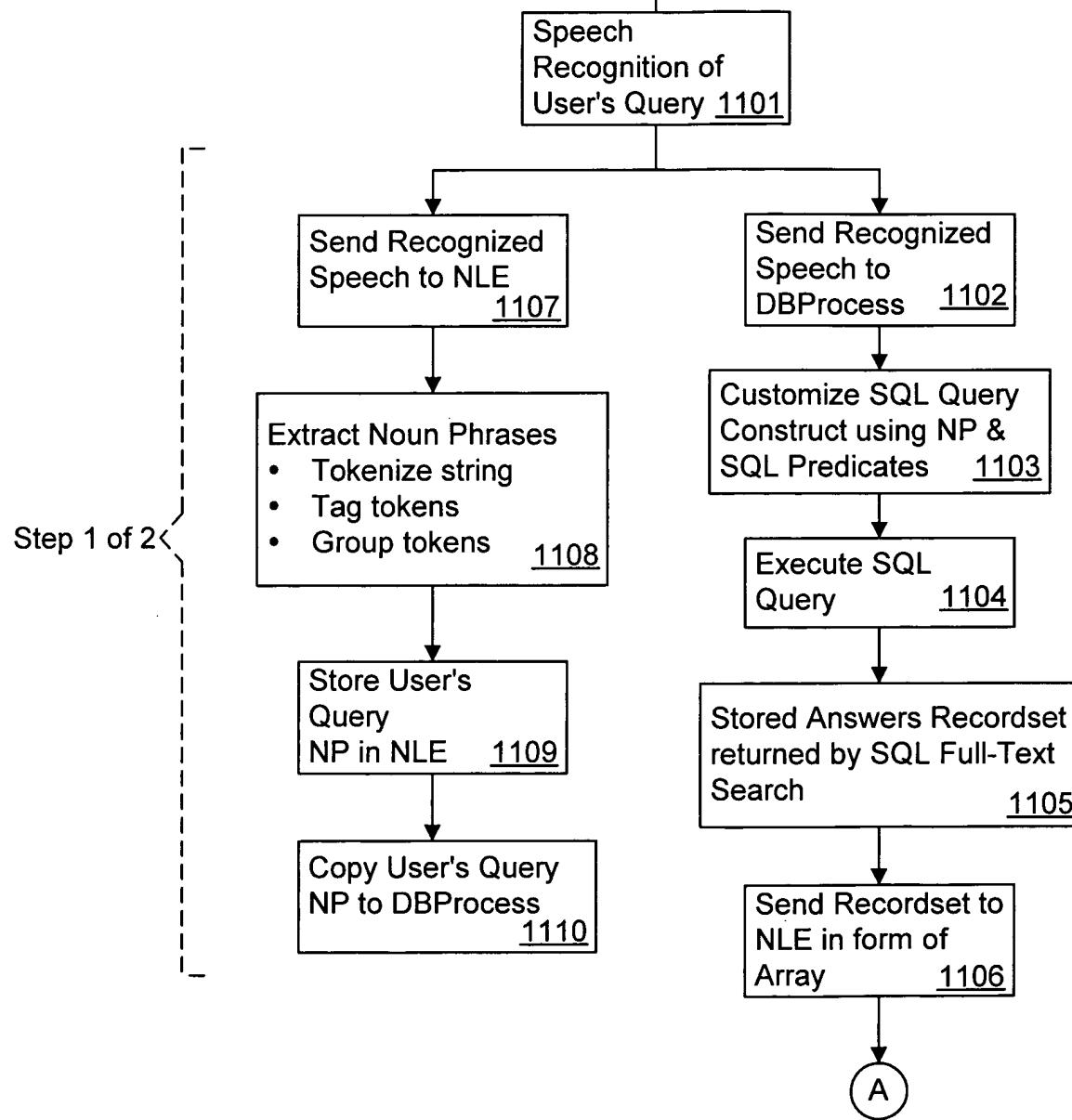




Fig. 11B

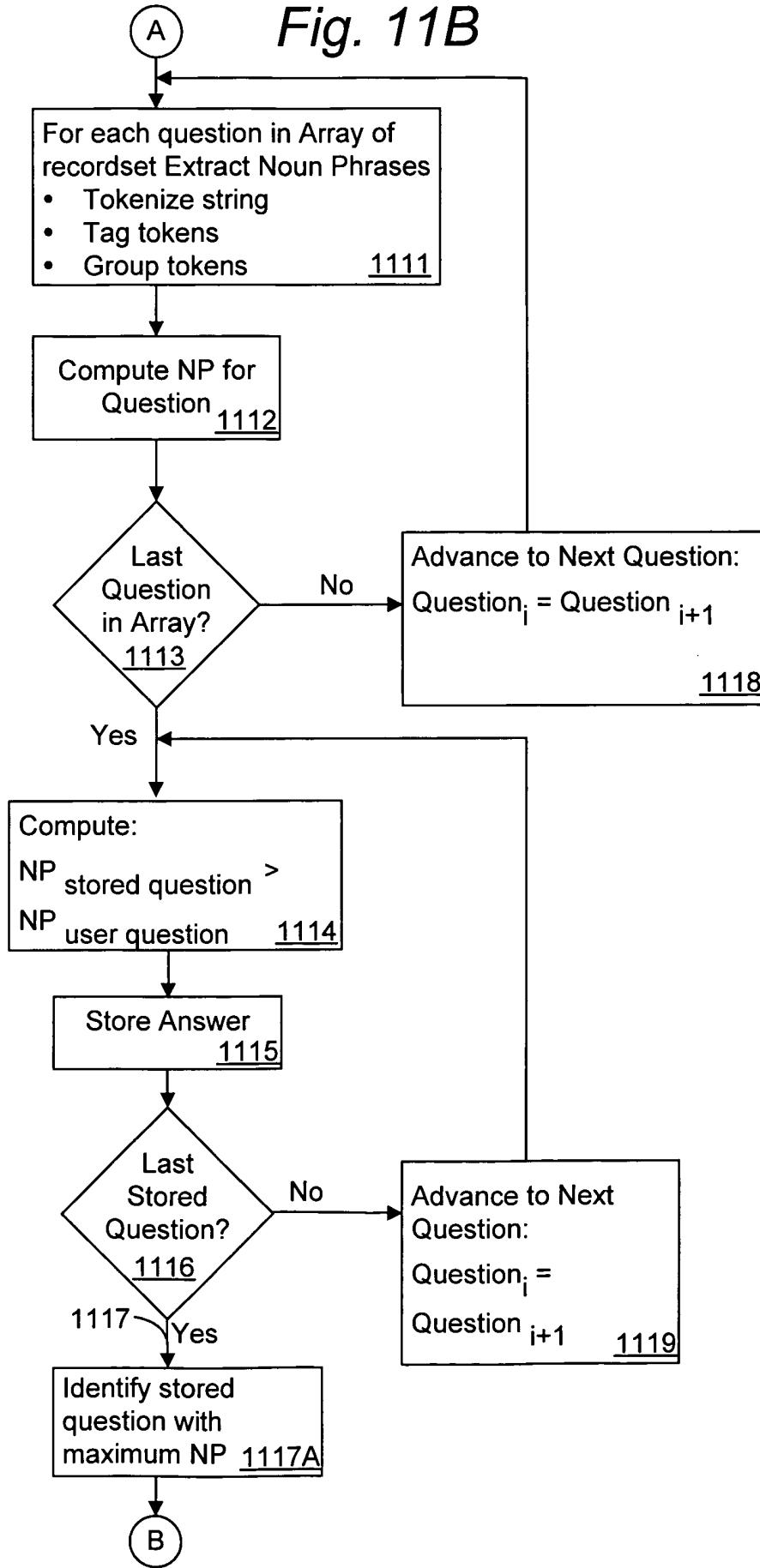




Fig. 11C

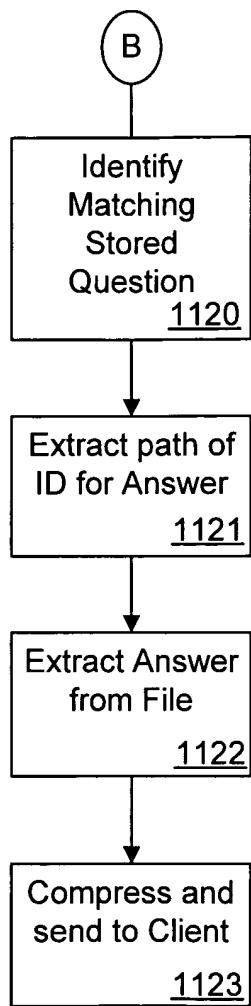






Fig. 13

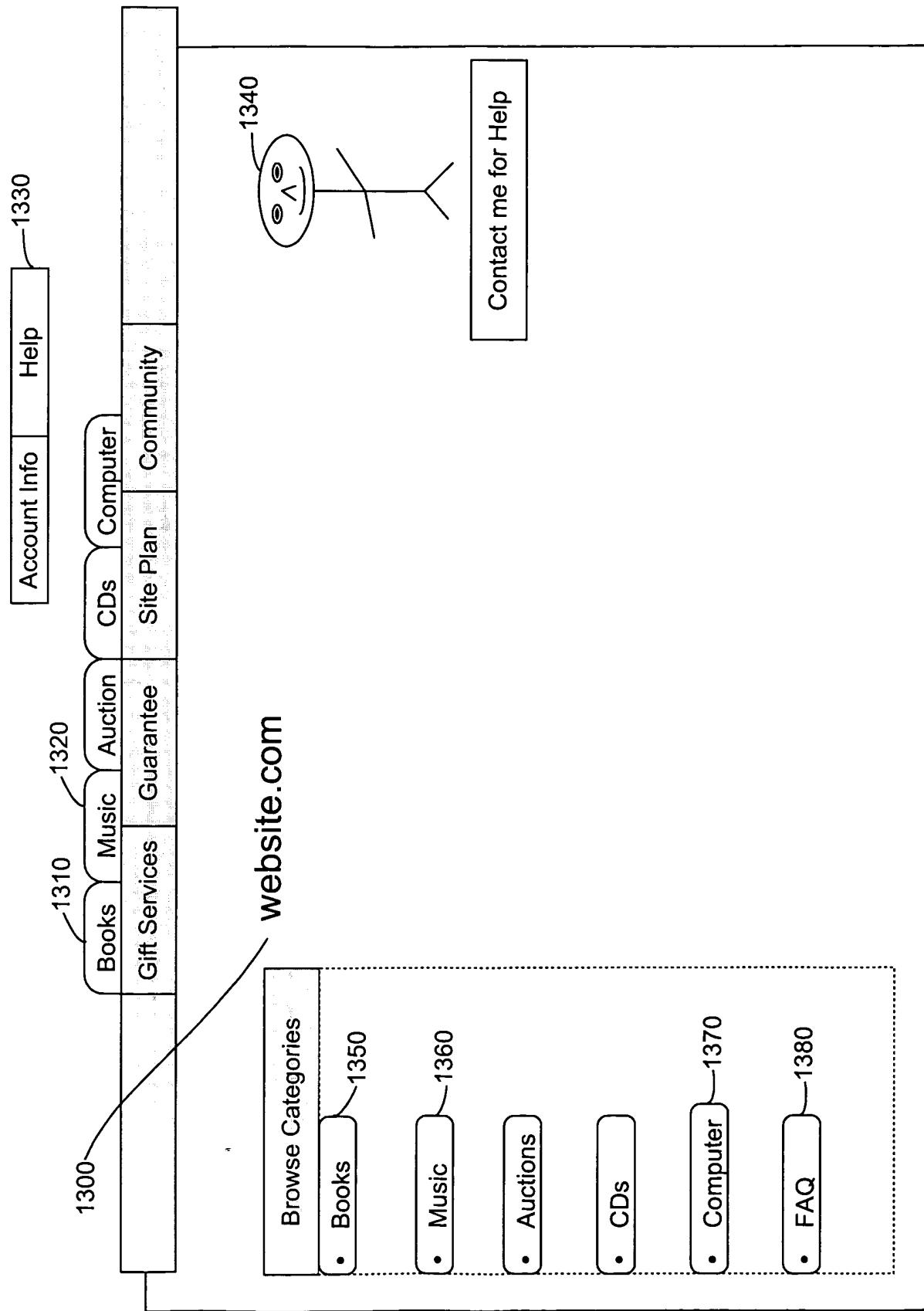




Fig. 14

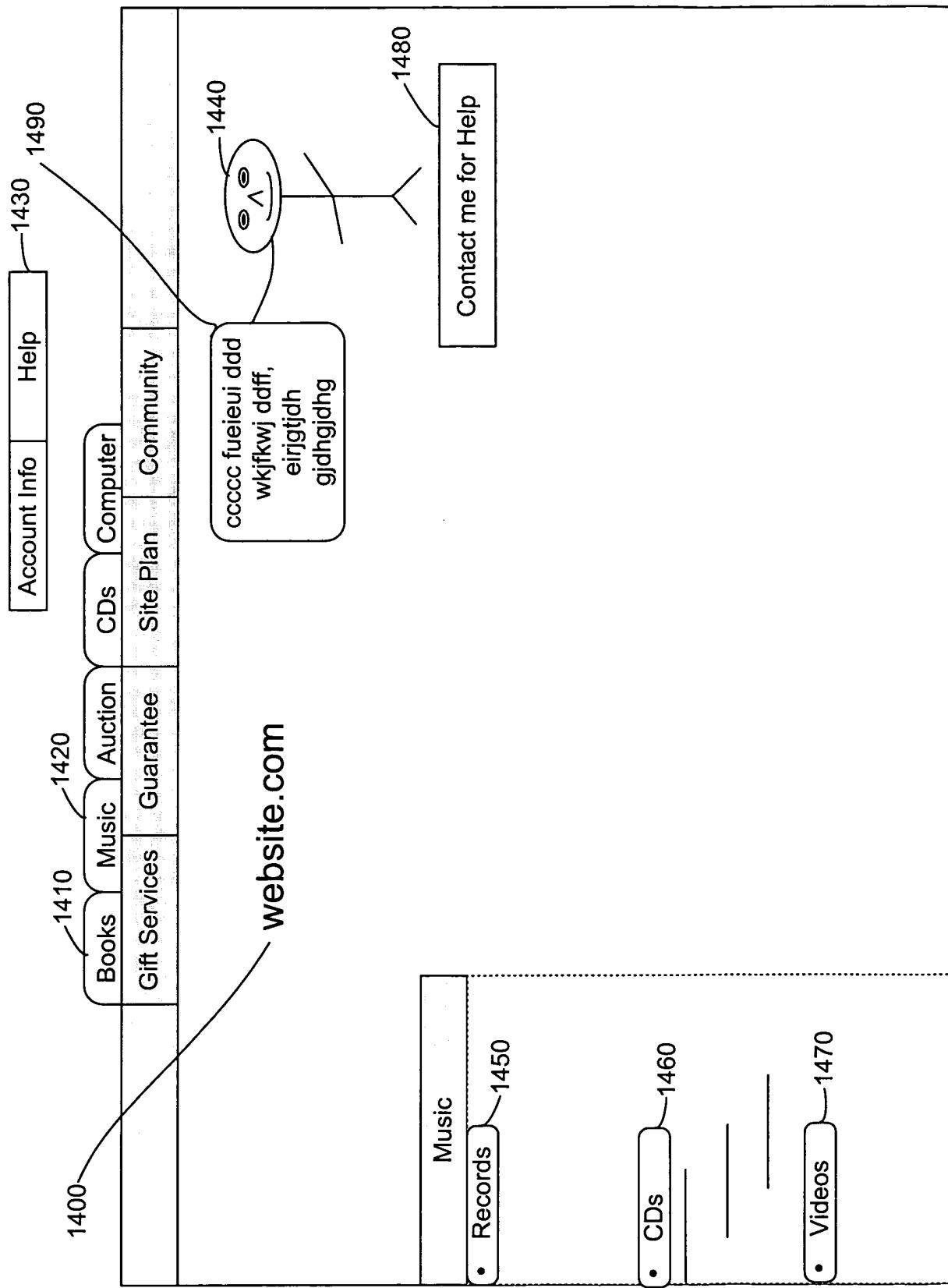




Fig. 15

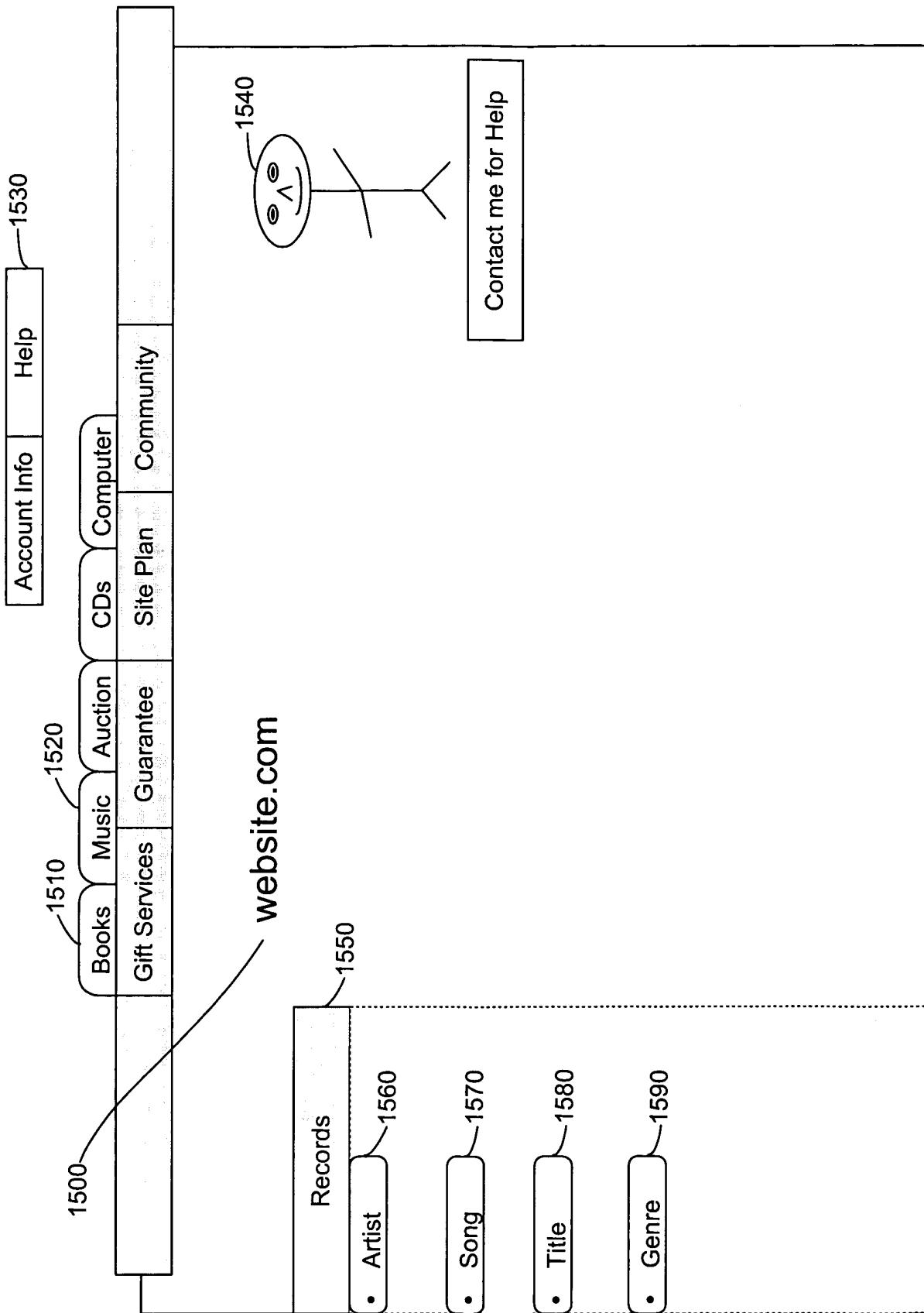


Fig. 16

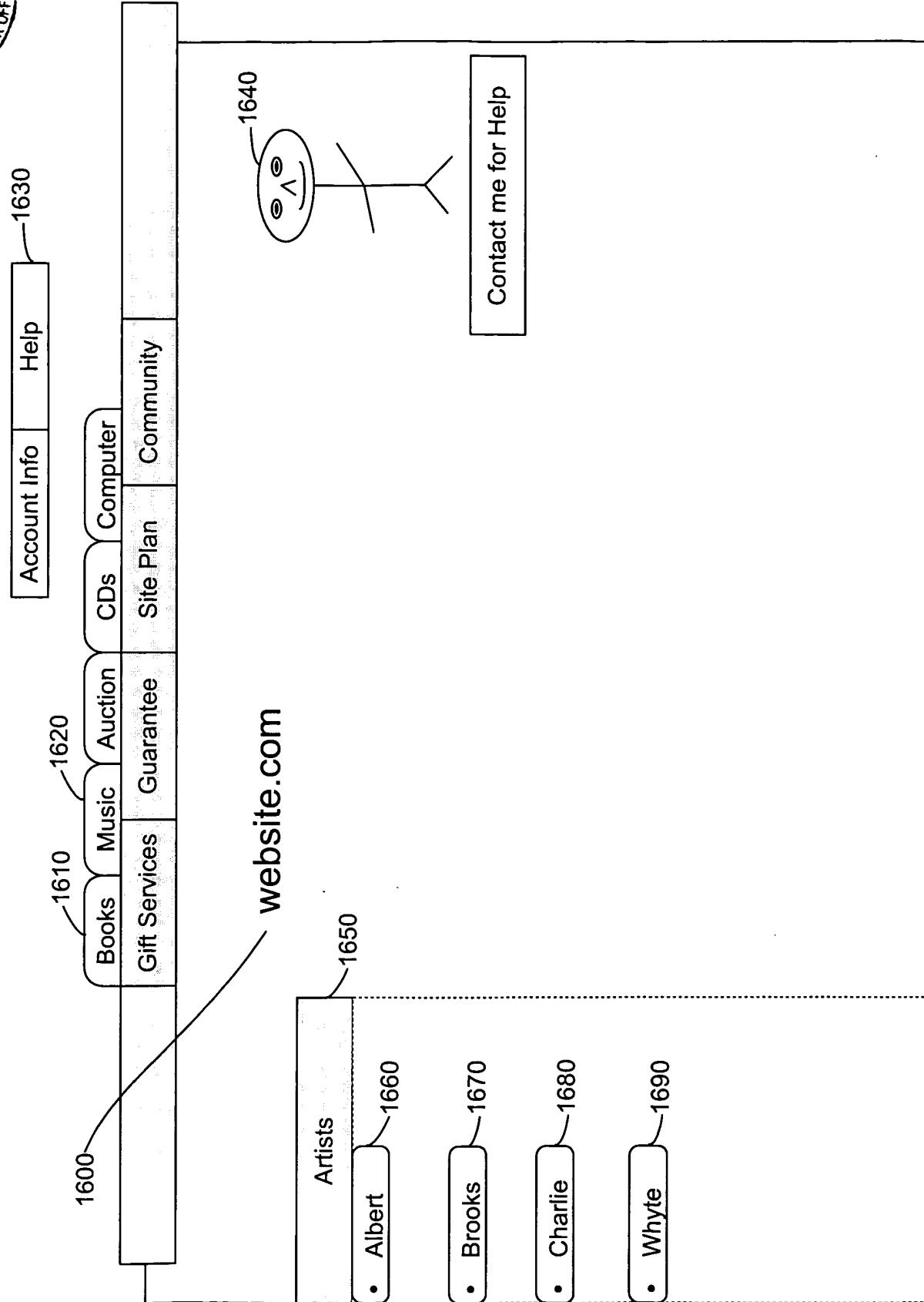
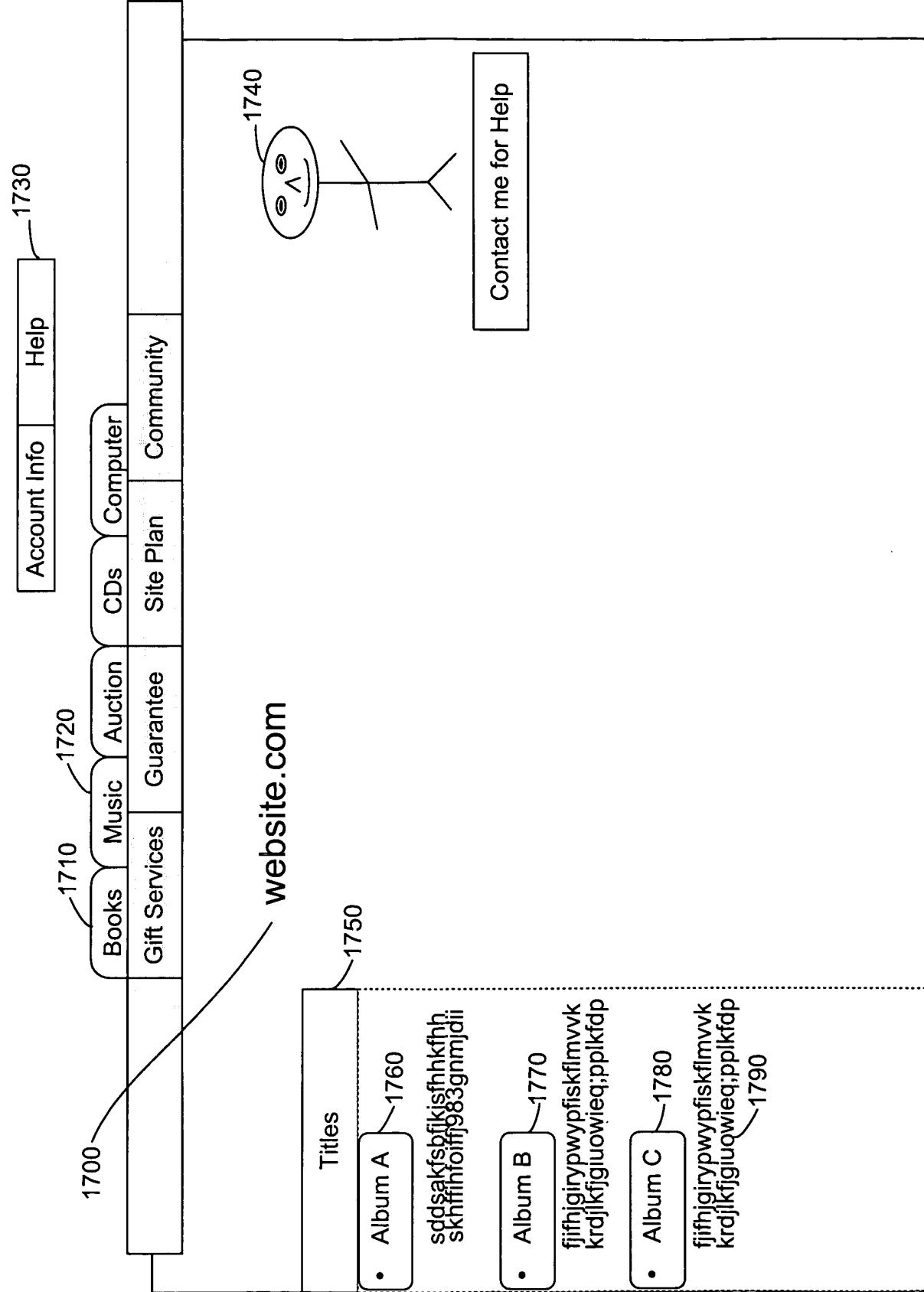


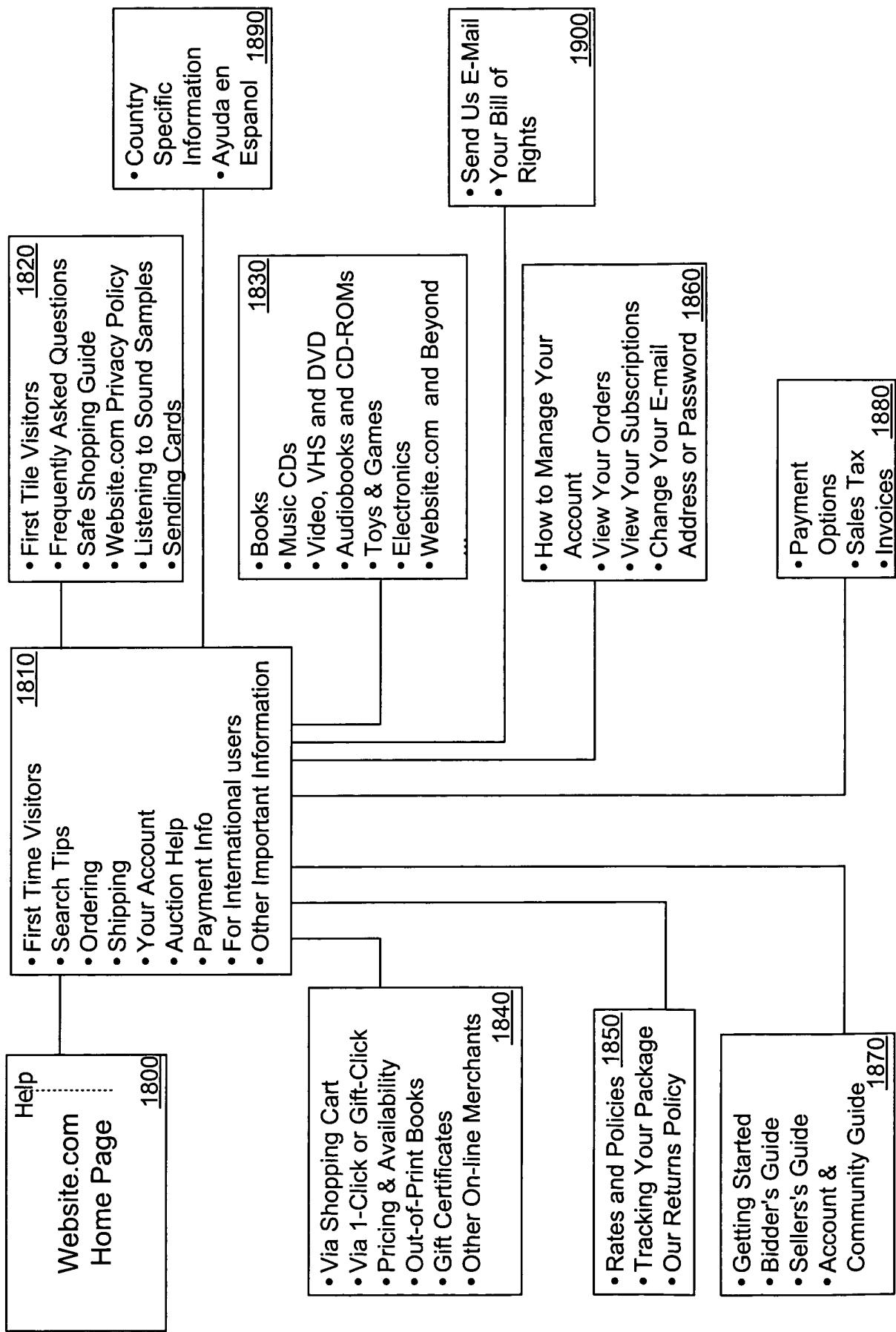


Fig. 17





## Fig. 18 (Page 1/2)





**Fig. 18 (Page 2/2)**

